

TWO NEW SPECIES OF POMADERRIS LABILL. (RHAMNACEAE) FROM SOUTH-EASTERN NEW SOUTH WALES

by

NEVILLE G. WALSH*

ABSTRACT

Walsh, Neville G. Two new species of *Pomaderris* Labill. (Rhamnaceae) from south-eastern New South Wales. *Muelleria* 6(6): 429-435 (1988). — *Pomaderris brogoensis* and *P. virgata* are described as new species from south-eastern New South Wales. The habitat, distribution and relationships of the species are discussed and illustrations provided.

TAXONOMY

Pomaderris brogoensis N. G. Walsh, sp. nov.

Frutex vel arbor parva usque ad 9 m altam. *Ramuli* pilis stellatis minutis necnon pilis paucis simplicibus longioribus. *Folia* obovata vel subrotundata 8-18 mm longa, 7-14 mm lata, leniter undulata, supra viridia pallida, (griseo-viridia desiccata), velutinis pilis minutis stellatis, nervata indistincta, infra griseo-viridia (cinerascens desiccata), stellato-pilosa, pinnatim nervata; venae primariae et laterali (3-6 paria) pilis appressis vel expansis leviter, pallidis vel brunneolis, simplicibus, paucis, c. 0.8 mm longis necnon pilis stellatis appressis. *Inflorescentia* paniculata, terminalis, pyramidalis, laxa, usque ad 3 cm longam, interdum foliis paucis. *Flores* apetalii, pedicellati. *Sepala* oblonga, 1.6-2 mm longa, stellato-pilosa externe et pilis appressis, simplicibus paucis, usque ad 0.5 mm longis. *Stylus* 0.8-1.1 mm longus, trilobus, divisus basi fere. *Capsulae* ovoideae latae ad obovoideae c. 3 x 2 mm.

Slender shrub or spreading, often multi-stemmed tree 3-9 m high. *Bark* smooth, or somewhat corky (to 2 cm thick) on older trees. *Branchlets* pubescent with fine dense grey stellate hairs and a few longer simple hairs. *Petiole* 2-6 mm long. *Lamina* obovate to subrotund, 8-18 mm long, 7-14 mm wide; apex broadly obtuse or slightly emarginate, the midvein sometimes exerted as a point to 0.5 mm long; margins slightly undulate; lamina penninerved with 3-7 pairs of lateral veins which are inconspicuous above; upper surface of lamina dull pale green when fresh, drying to mid grey, densely covered with minute stellate hairs; lower surface of lamina grey-green when fresh, drying to pale grey, densely stellate-hairy, the stellae coarser than those of the upper surface and completely concealing the lower epidermis; midvein and larger lateral veins of the lower surface with some forwardly appressed or slightly spreading, pale to brown, simple hairs to 0.8 mm long (often conspicuous only on younger leaves), as well as stellate hairs which are longer than those between the nerves and forwardly appressed. *Stipules* lanceolate, mostly 3-5 mm long, tan, stellate-hairy, often with a few short simple hairs along the midrib and margins, frequently persisting after leaves have fallen. *Inflorescences* paniculate, terminal, pyramidal, mostly to 3 cm long and with c. 15-30 flowers, occasionally including a few reduced leaves. *Buds* ovoid, slightly angular, about 2 mm long just prior to anthesis. *Pedicels* about 2 mm long at anthesis, moderately densely covered with fine stellate and simple hairs. *Sepals* oblong, 1.6-2 x 0.7-0.9 mm, acute at apex, covered externally with fine stellate hairs with a few forwardly appressed simple hairs to 0.5 mm long, golden yellow and glabrous on inner face with a raised midline, becoming recurved. *Petals* absent. *Stamens* alternate to the sepals; filament 1-1.3 mm long; anther oblong, about 1 mm long. *Ovary* semi-inferior, about 0.6 mm diam. at anthesis, conically raised by 0.3-0.5 mm above level of attachment of sepals, the raised part densely covered by simple hairs to 0.8 mm long. *Style* 0.8-1 mm long, usually cleft almost to the base into 3 equal arms. *Capsules* broadly ovoid to obovoid, about 3 x 2 mm, finely stellate-hairy, sometimes retaining a few simple hairs on the thalamus tube; operculum on inner face of each of the 3 segments almost round, about 1.5 mm diam., papery. *Seeds* flattened-ellipsoid, about 2 mm long, shining brown with a small white apical aril. Fig. 1.

* National Herbarium of Victoria, Birdwood Avenue, South Yarra, Victoria, Australia 3141.

TYPE COLLECTION:

New South Wales — South coast sub-region, Bemboka State Forest, 6.7 km E. from Bemboka Peak, 36° 36' 10" S., 149° 42' 30" E., alt. 470 m, 4.xi.1986, *D. E. Albrecht* 2956. (Holotype: MEL 1553283. Isotypes: CBG, K, NSW).



Fig. 1. *P. brogoensis*. a — flowering branchlet, x 2/3. b — flower, x 8. c — undersurface of leaf, x 3; inset showing simple hairs along midvein, x 8. d — capsule, x 8. a-c from *D. E. Albrecht* 2956 (type); d from *N. G. Walsh* 1664 (MEL 1553284).

SELECTED SPECIMENS EXAMINED (total examined, 9):

New South Wales — Brogo Pass, 300 m ESE. from Brogo R. — Browns Ck confluence, l.xii.1986, N. G. Walsh 1664, (MEL 1553284). Brogo River, c. 1 km downstream from bridge, 12.xii.1986, W. M. Molyneux s.n. (MEL 1553285). Dampier State Forest, 3.3 km N. of the Belowra—Nerrigundah Rd on the Belowra East fire trail, 12.xii.1986, J. D. Briggs 2138 (CANB). Nadgee Nature Reserve, Merricka River Crossing, 15.x.1977, M. Parris 7792 (CBG). Twofold Bay, [c. 1860], Morton s.n. (MEL 55643).

DISTRIBUTION AND CONSERVATION STATUS (Fig. 3):

Known from scattered localities from near Belowra south to Nadgee Nature Reserve, but records are concentrated in the upper catchment of the Brogo River. All records are within the south coast botanical subdivision of New South Wales (Jacobs and Pickard, 1981). The conservation status of the species is assessed as 3RC (Briggs and Leigh, in press), i.e. the species is known from a conservation reserve, is rare and has a known range exceeding 100 km.

HABITAT:

All annotated collections are from (usually steeply) sloping sites with predominantly northerly aspect. The substrate is invariably rocky (sedimentary) with shallow, often gritty soils between outcrops.

NOTES:

A distinctive species with well-defined habitat requirements, *P. brogoensis* most closely resembles *P. cinerea*, which has a similar distribution. Previous collections of *P. brogoensis* have been identified as *P. cinerea*. The two species have in common apetalous flowers and both have leaves which are very finely hairy on both surfaces, giving the plants an overall dull or grey-green appearance. The key below serves to distinguish the two species.

1. Leaves obovate to almost round, 8-18 mm long; simple hairs present on (at least young) stems, petioles, midvein of leaf undersurface, calyx and sepals; stipules often persistent. Flowering late October to early December *P. brogoensis*
1. Leaves ovate to elliptic, mostly 20-40 mm long; simple hairs absent from all parts; stipules soon deciduous. Flowering mid-December to early January *P. cinerea*

Although the two species occur in close proximity at at least three of the localities cited for *P. brogoensis*, no specimens of indeterminate character have been collected. It is a common attribute of *Pomaderris* that several species, often morphologically very close, occur in a fairly restricted area.

The specific epithet refers to the Brogo area of New South Wales from where the species was first known and from near where most subsequent collections have been made.

***Pomaderris virgata* N. G. Walsh, sp. nov.**

Frutex virgatus usque ad 8 m altum. *Ramuli* hornotini et annotini pilis densis velutinis cuprinis, ramuli vetiores glabrescentes. *Folia* lanceolata, anguste elliptica vel oblonga, basi rotundate apice acuto, 25-90 mm longa, 7-22 mm lata, margine recurvo, nervorum 9-20 pares, supra atrovirentia glabra, infra pilis densis, cremeis vel aureis sericeis, 0.5-1 mm longis, inclinatis versus marginem, pili venarum et marginum colorati appressi plus quam interveniorum. *Inflorescentia* paniculata terminalis rotundata usque ad 6 cm diametro, moderate densa interdum foliis paucis. *Flores* apetala, pedicellata. *Sepala* oblonga 1.6-2.2 mm longa, externis dense obtectis pilis partim appressis sericeis c. 1 mm longis. *Stylus* c. 1 mm longus trilobus divisus c. medio. *Capsulae* obovoideae c. 3 x 2 mm.

Erect, slender *shrub* to 8 m high, usually unbranched near the ground. *Branches* ascending. *Bark* smooth, becoming thick (to 2 cm) and tessellated on trunks of old plants. *Branchlets* of current and previous season's growth densely covered with pale to dark copper-coloured, short, simple hairs, or the hairs sometimes crimson on the youngest parts; older stems glabrescent. *Petiole* to 12 mm long; indumentum that of the younger branchlets. *Lamina* lanceolate, narrowly elliptic or oblong, 25-90 mm long, 7-22 mm broad, acute at the apex, rounded at the base, with recurved margins, penninerved with 9-20 pairs of lateral veins; upper surface of lamina dark



Fig. 2. *P. virgata*. a — branchlet in bud and early flower, x 2/3. b — flower, x 8. c — undersurface of leaf, x 2/3; inset, x 4. d — leaf, T. S. showing appressed hairs of midvein and lateral veins on undersurface, x 4. e — capsule, x 8. a-d from *N. G. Walsh 1708* (type); e from *D. E. Albrecht 2318* (MEL 1550010).

green, wholly glabrous, with veins slightly impressed; lower surface of lamina densely covered with cream to pale golden silky hairs 0.5-1 mm long and inclined toward the margin, the hairs of veins and margin more strongly coloured and appressed so that the surface of the hair layer is virtually level either side of the raised midvein. *Stipules* narrowly lanceolate, mostly 3-4 mm long, densely pubescent and early deciduous. *Inflorescences* paniculate, terminal, rounded, to 6 cm diameter and with c. 100-150 flowers, occasionally including a few leaves. *Buds* ovoid, 2-3 mm long just prior to anthesis. *Pedicels* about 2 mm long at anthesis, densely covered with silky hairs. *Sepals* oblong, 1.6-2.2 x 0.8-1.2 mm, acute at apex, covered externally with silky, semi-appressed hairs about 1 mm long, golden yellow and glabrous on inner face with raised midline, strongly recurved at anthesis. *Petals* absent. *Stamens* alternate to the sepals; filament 1.5-2.0 mm long; anther oblong, about 1 mm long. *Ovary* inferior, about 1.2 mm diameter at anthesis, with a tuft of simple hairs 0.5-0.8 mm long covering the summit. *Style* c. 1 mm long, cleft to about midway into 3 equal arms. *Capsules* obovoid, about 3 x 2 mm, evenly covered with semi-appressed, simple hairs. *Ripe seeds* not seen. Fig. 2.

TYPE COLLECTION:

New South Wales — South coast, Nalbaugh National Park, beside tributary of Wog Wog River, 100 metres N. from the river, 2.5 km ESE. from Wog Wog Mountain trig point, 37° 04' 00" S., 149° 31' 20" E., alt. 320 m, 24.x.1986, *N. G. Walsh 1708* (Holotype: MEL 1553286. Isotypes: BRI, CBG, HO, K, MEL 687869, NSW).

SELECTED SPECIMENS EXAMINED (total examined, 11):

New South Wales — Summit of Dr George Mountain, 6 km ENE. from Bega, 2.xii.1986, *N. G. Walsh 1663* (MEL 1553287). Egan Peaks Nature Reserve, SW. - running spur 1.6 km W. of Burrigat Peak, 17.x.1986, *J. D. Briggs 2085* (CANB). Wadbilliga National Park, at picnic ground against Tuross R. cascades, 21.viii.1983, *J. H. Willis s.n.* (MEL 684075). Yambulla State Forest, Mountain Peak, 2.5 km NE. from Mt Poole, 21.vii.1986, *D. E. Albrecht 2705* (MEL 1553288). Yurramie State Forest, near Wolumla Peak, 16.x.1986, *D. M. Binns 69* (MEL 1553289).

DISTRIBUTION AND CONSERVATION STATUS (Fig. 3):

Known from only about 8 sites, all in the south coast botanical sub-division of New South Wales (Jacobs & Pickard, 1981), from Wadbilliga National Park near the Tuross Falls south to Yambulla State Forest near Mt Poole (about 15 km from the Victorian border). The conservation status is assessed as 3RC (Briggs & Leigh, in press).

HABITAT:

Found in rocky sites in the vicinity of watercourses, or on ridges where it is invariably associated with rocky outcrops, within an altitude range of 300-750 metres. Soils are typically skeletal and derived from granite, other igneous parent materials (e.g. syenite) or Ordovician sediments.

NOTES:

P. virgata most closely resembles, and is probably most closely related to, *P. costata*, the principle features in common being the apetalous flowers and the general nature of the indumentum. The two species are distinguished on the features set out in the key below.

1. Leaves ovate to broadly ovate, mostly 15-40 mm long; length 1.4-2.5 (av.1.9) x breadth; margins slightly undulate. Indumentum on leaves and young stems pale brown to golden; lateral veins of leaf undersurface protruding above hair layer between veins. Usually a spreading, rounded shrub to c. 3.5 m high *P. costata*
1. Leaves lanceolate to oblong, mostly 25-90 mm long; length 3.3-4.5 (av. 4.0) x breadth; margins not undulate. Indumentum on leaves and young stems distinctly copper-coloured or crimson; lateral veins of leaf undersurface immersed within hair layer between veins (but remaining visible). Usually a slender, more or less obconical shrub to 9 m high *P. virgata*

Like *P. virgata*, *P. costata* typically occurs on rocky sites. Both species have been collected within a few kilometres of each other at Egan Peaks Nature Reserve but no specimens of intermediate character have been collected from there or elsewhere.

The specific epithet refers to the characteristic slender, upright habit of the plant.

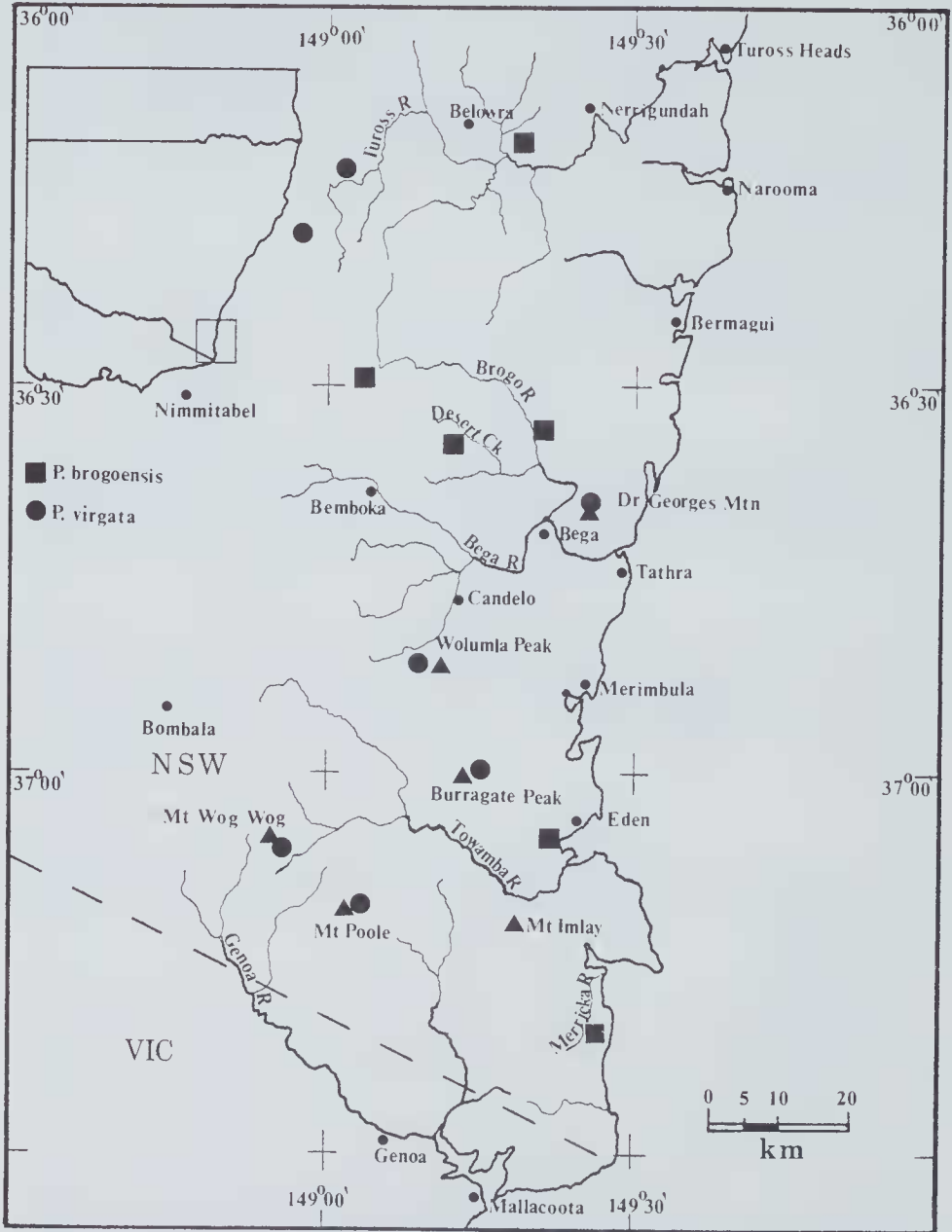


Fig. 3. Distribution of *Pomaderris brogoensis* (■) and *P. virgata* (●).

ACKNOWLEDGEMENTS

I am indebted to Mrs M. Parris and my colleague Mr D. E. Albrecht for bringing these new species to my notice, checking other herbaria (CBG, NSW) for collections and accompanying me in the field to collect material of these species. I am also grateful to Mr J. D. Briggs for providing material of and valuable information regarding these species, and to Miss A. M. Podwyszyński for the illustrations.

REFERENCES

- Briggs, J. D. & Leigh, J. H. (in press). Rare or threatened Australian plants: The 1988 revised edition. *Austral. Natl Parks & Wildlife Serv. Special Publ. 14*.
Jacobs, S. W. L. & Pickard, J. (1981). 'Plants of New South Wales'. (Government Printer: Sydney).

Manuscript received 10 March 1987.